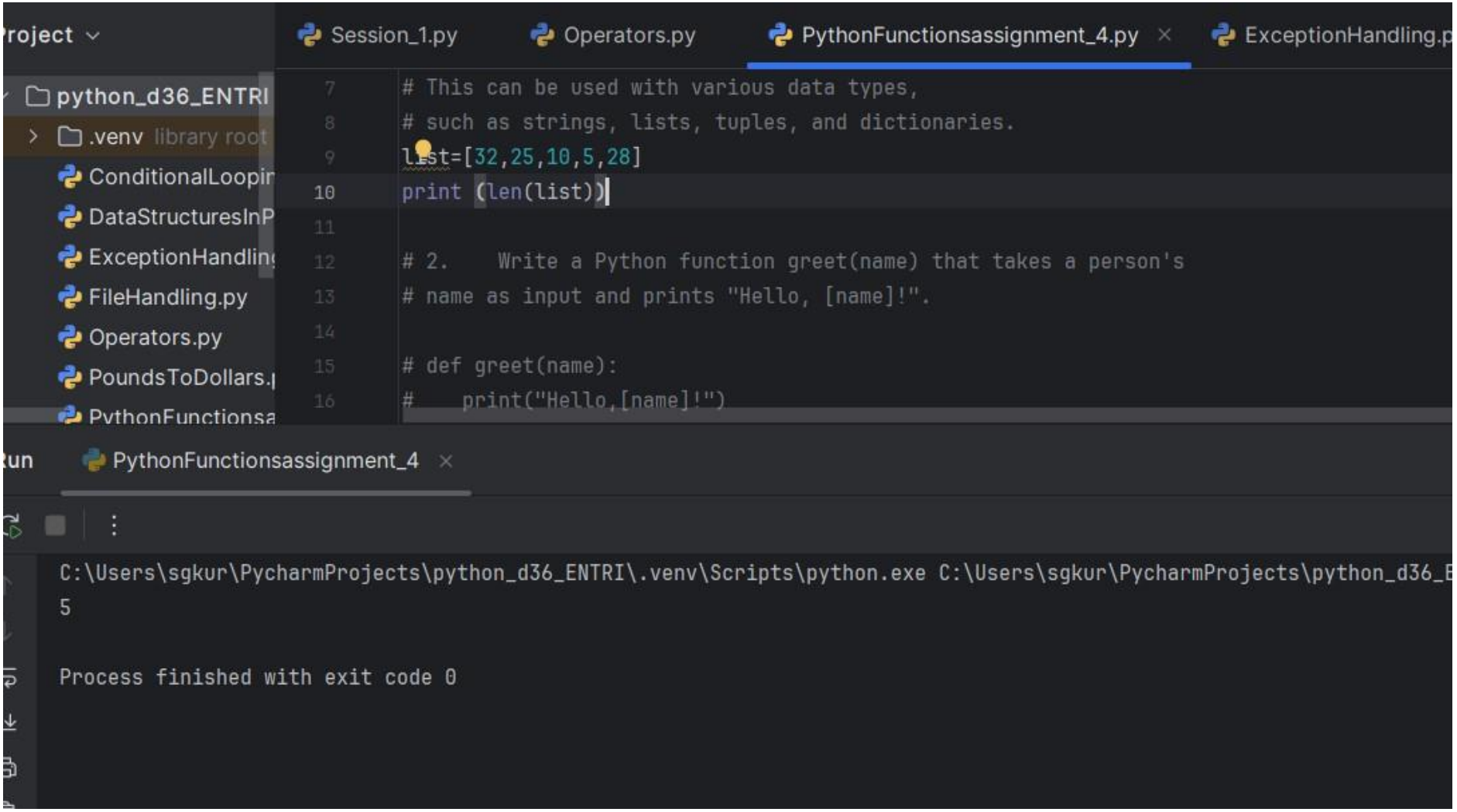
# ASSIGNMENT ON FUNCTIONS IN PYTHON

By
Shino Mary Philipose

Q.1


Project
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Operators.py
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ExceptionHandlin
FileHandling.py
Operators.py
PoundsToDollars.
PythonFunctionsa
# This can be used with various data types,
# such as strings, lists, tuples, and dictionaries.
list=[32,25,10,5,28]
print (len(list))
# 2. Write a Python function greet(name) that takes a person's
# name as input and prints "Hello, [name]!".
# def greet(name):
# print("Hello,[name]!")
Run
PythonFunctionsassignment_4
C:\Users\sgkur\PycharmProjects\python_d36_ENTRI\.venv\Scripts\python.exe C:\Users\sgkur\PycharmProjects\python_d36_E
5
Process finished with exit code 0

Q.2

Session_1.py  Operators.py  PythonFunctionsassignment_4.py ×

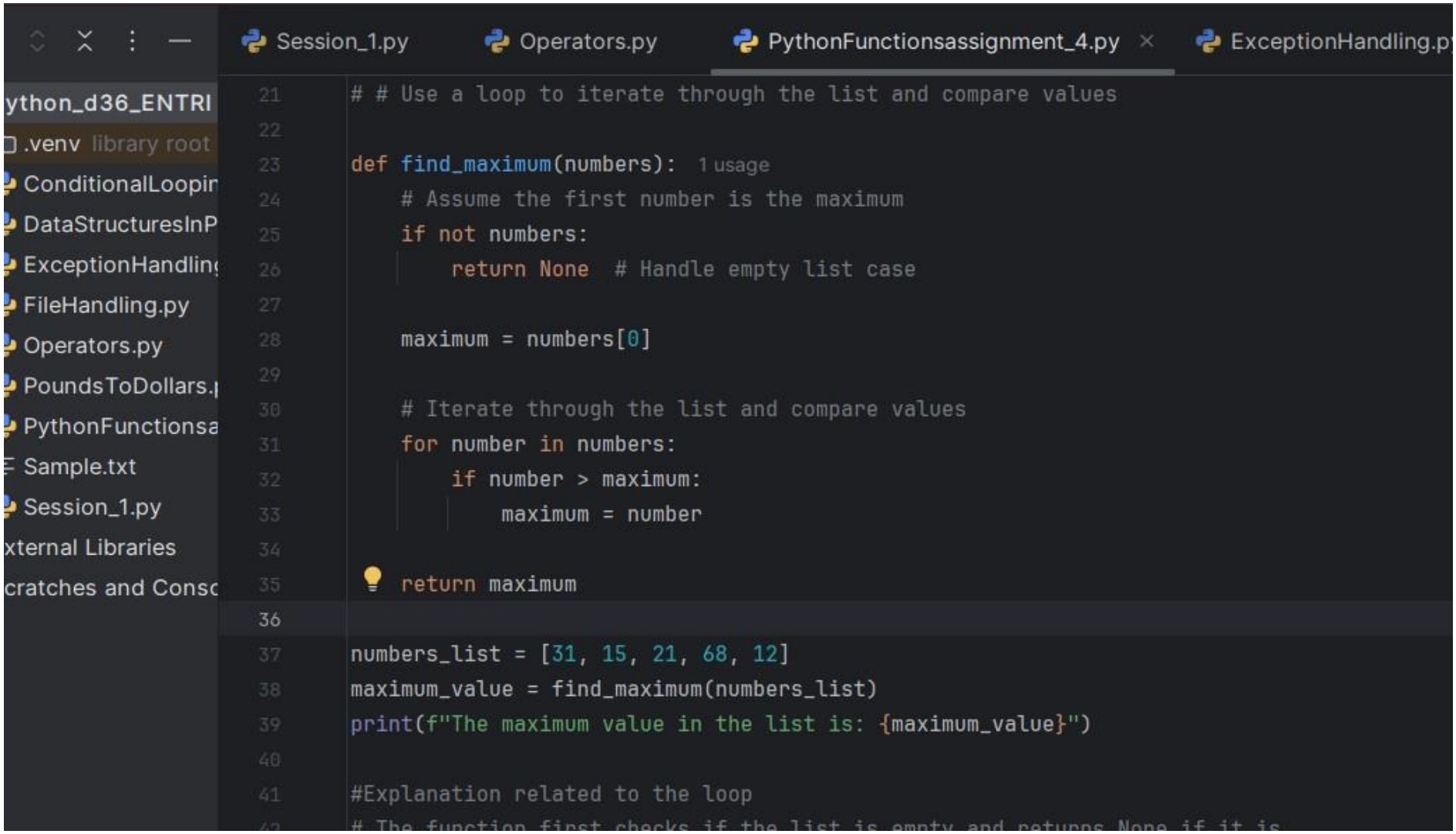
```
10  #print (len(list))
11
12  # 2.    Write a Python function greet(name) that takes a person's
13  # name as input and prints "Hello, [name]!".
14
15  def greet(name):  1 usage
16      print("Hello,[name]!")
17  greet("Hello,[name]!")
18
19
```

Run  PythonFunctionsassignment_4 ×

```
C:\Users\sgkur\PycharmProjects\python_d36_ENTRI\.venv\Scripts\python.exe C:\Users\sgkur\PycharmProjects\python_d36_E
Hello,[name]!

Process finished with exit code 0
```

Q.3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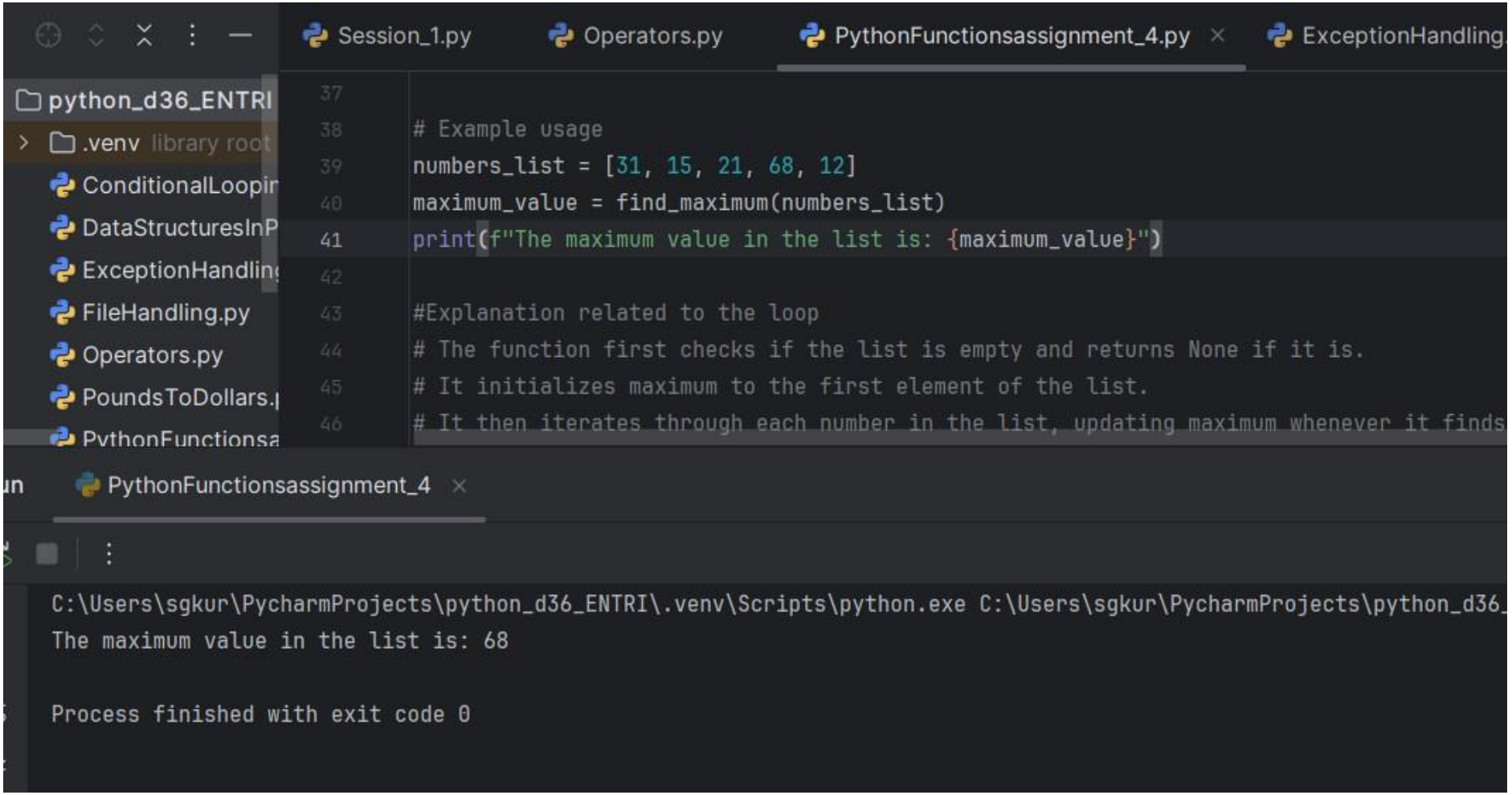
# # Use a loop to iterate through the list and compare values
def find_maximum(numbers): 1 usage
# Assume the first number is the maximum
if not numbers:
return None # Handle empty list case
maximum = numbers[0]
# Iterate through the list and compare values
for number in numbers:
if number > maximum:
maximum = number
return maximum
numbers_list = [31, 15, 21, 68, 12]
maximum_value = find_maximum(numbers_list)
print(f"The maximum value in the list is: {maximum_value}")
#Explanation related to the loop

Q.3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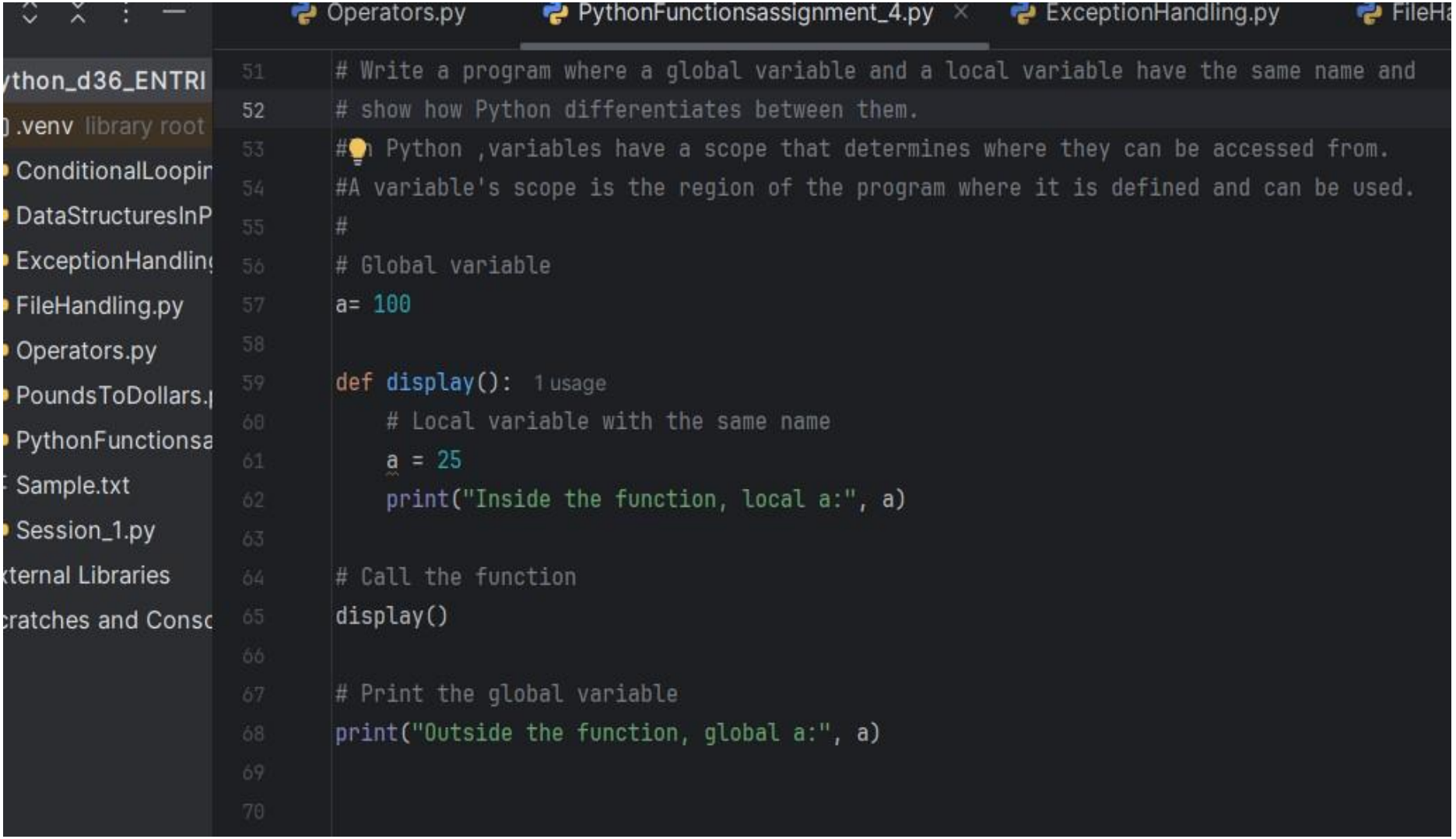
Operators.py
PoundsToDollars.
PythonFunctionsa
37
38 # Example usage
39 numbers_list = [31, 15, 21, 68, 12]
40 maximum_value = find_maximum(numbers_list)
41 print(f"The maximum value in the list is: {maximum_value}")
42
43 #Explanation related to the loop
44 # The function first checks if the list is empty and returns None if it is.
45 # It initializes maximum to the first element of the list.
46 # It then iterates through each number in the list, updating maximum whenever it finds
un
PythonFunctionsassignment_4
C:\Users\sgkur\PycharmProjects\python_d36_ENTRI\.venv\Scripts\python.exe C:\Users\sgkur\PycharmProjects\python_d36_
The maximum value in the list is: 68
Process finished with exit code 0

Q.4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Operators.py
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PythonFunctionsa
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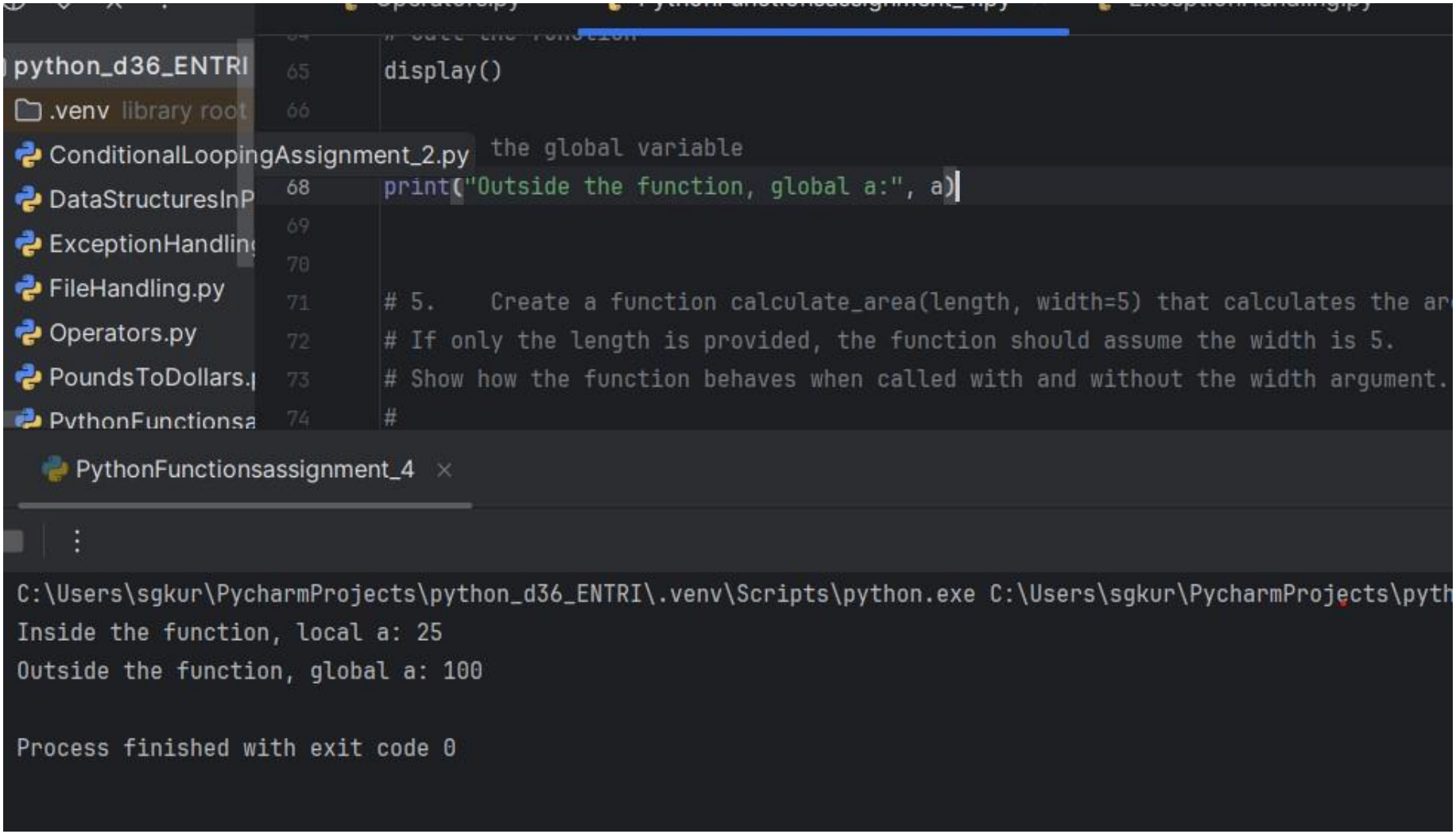
# Write a program where a global variable and a local variable have the same name and
# show how Python differentiates between them.
# In Python ,variables have a scope that determines where they can be accessed from.
#A variable's scope is the region of the program where it is defined and can be used.
#
# Global variable
a= 100
def display(): 1 usage
# Local variable with the same name
a = 25
print("Inside the function, local a:", a)
# Call the function
display()
# Print the global variable
print("Outside the function, global a:", a)

Q.4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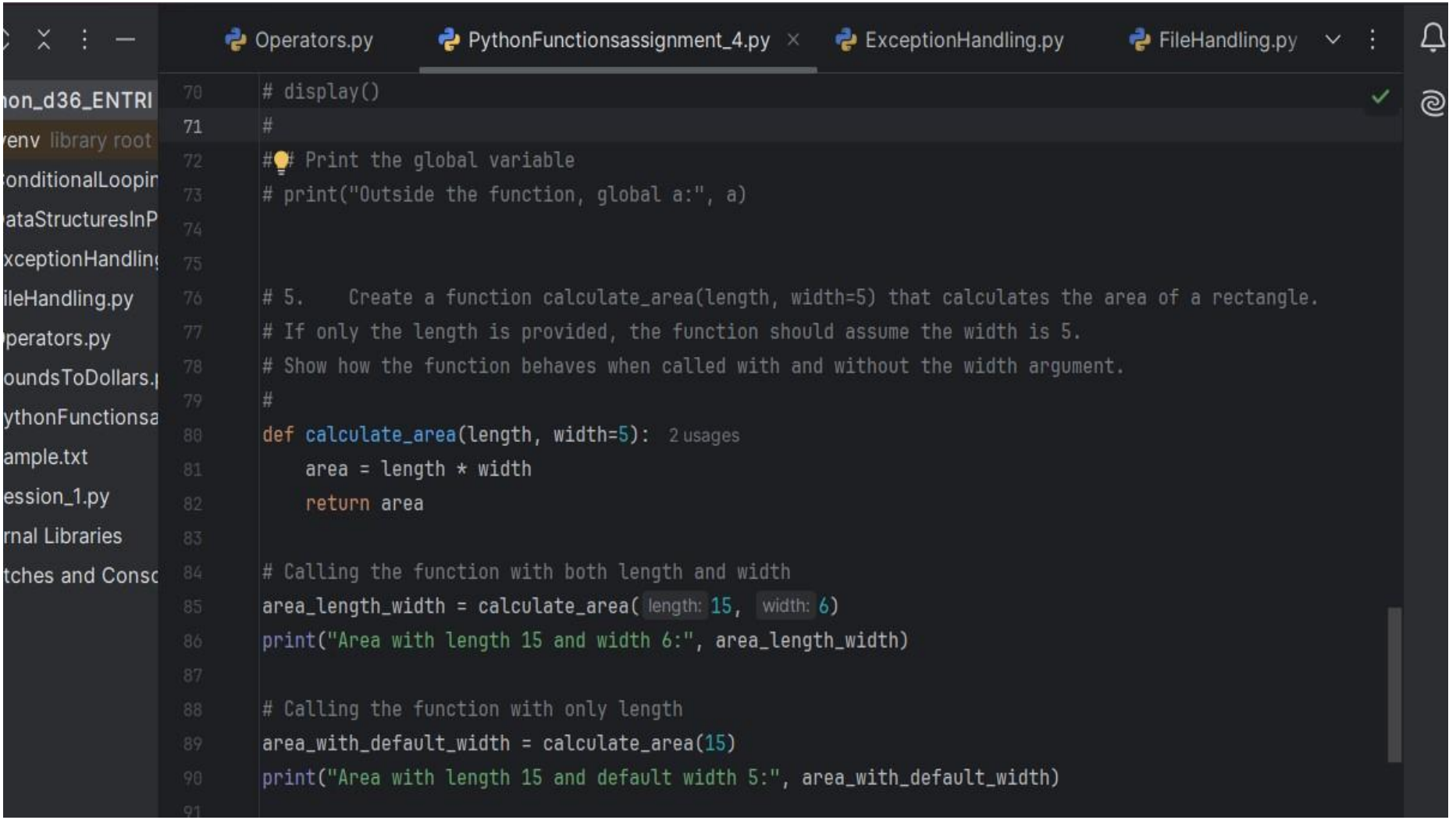
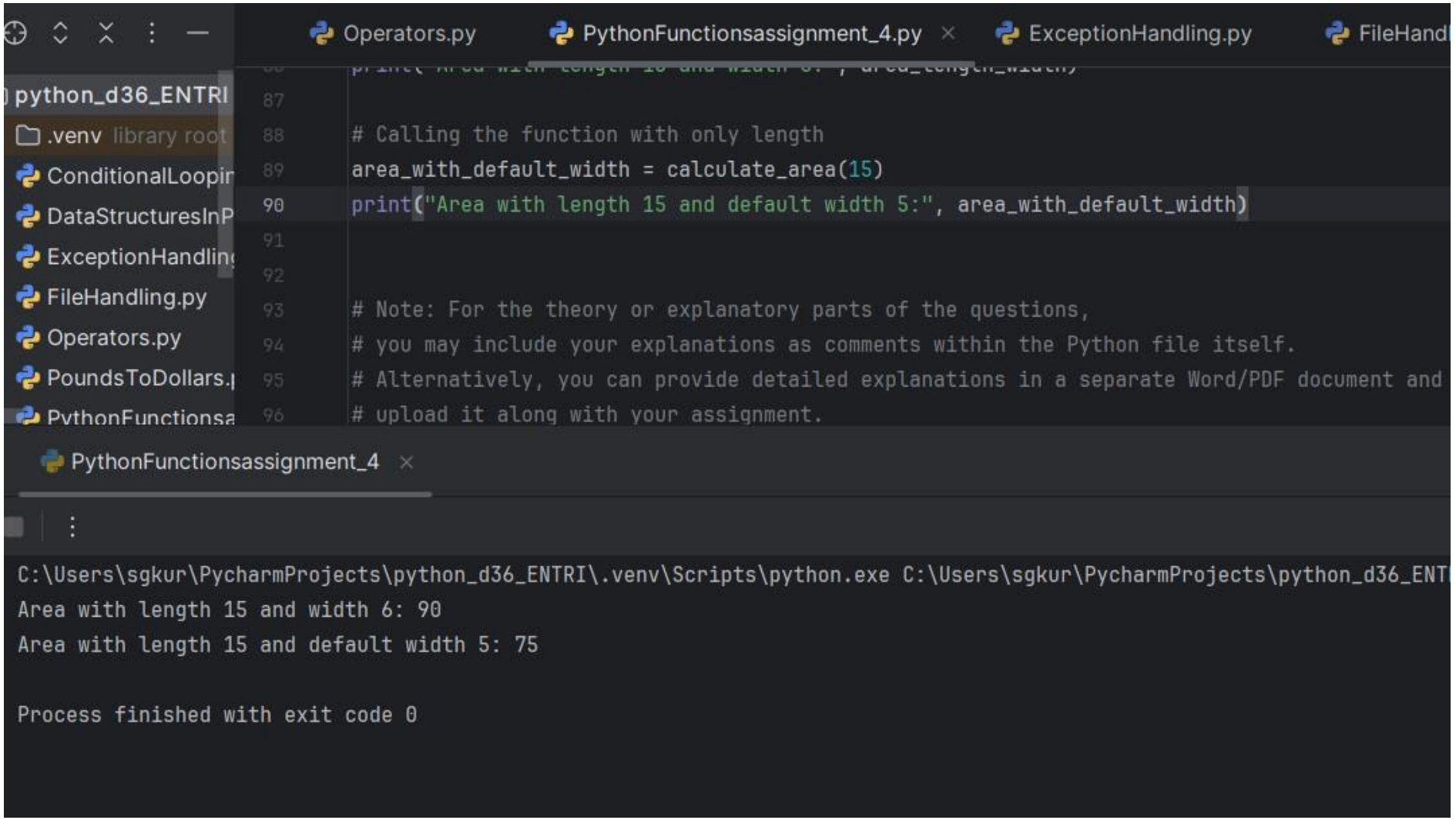
PythonFunctionsa
display()
the global variable
print("Outside the function, global a:", a)
# 5. Create a function calculate_area(length, width=5) that calculates the ar
# If only the length is provided, the function should assume the width is 5.
# Show how the function behaves when called with and without the width argument.
#
PythonFunctionsassignment_4
C:\Users\sgkur\PycharmProjects\python_d36_ENTRI\.venv\Scripts\python.exe C:\Users\sgkur\PycharmProjects\pyth
Inside the function, local a: 25
Outside the function, global a: 100
Process finished with exit code 0

Q.5


Operators.py
PythonFunctionsassignment_4.py
ExceptionHandling.py
FileHandling.py
# display()
#
# Print the global variable
# print("Outside the function, global a:", a)
# 5. Create a function calculate_area(length, width=5) that calculates the area of a rectangle.
# If only the length is provided, the function should assume the width is 5.
# Show how the function behaves when called with and without the width argument.
#
def calculate_area(length, width=5): 2 usages
area = length * width
return area
# Calling the function with both length and width
area_length_width = calculate_area( length: 15, width: 6)
print("Area with length 15 and width 6:", area_length_width)
# Calling the function with only length
area_with_default_width = calculate_area(15)
print("Area with length 15 and default width 5:", area_with_default_width)

Q.5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PythonFunctionsa
87
88 # Calling the function with only length
89 area_with_default_width = calculate_area(15)
90 print("Area with length 15 and default width 5:", area_with_default_width)
91
92
93 # Note: For the theory or explanatory parts of the questions,
94 # you may include your explanations as comments within the Python file itself.
95 # Alternatively, you can provide detailed explanations in a separate Word/PDF document and
96 # upload it along with your assignment.
PythonFunctionsassignment_4
C:\Users\sgkur\PycharmProjects\python_d36_ENTRI\.venv\Scripts\python.exe C:\Users\sgkur\PycharmProjects\python_d36_ENTI
Area with length 15 and width 6: 90
Area with length 15 and default width 5: 75
Process finished with exit code 0

## Explanations for the functions used

1. What does the len() function do in Python?

The len() function in Python returns the number of items in an object.
# This can be used with various data types,
# such as strings, lists, tuples, and dictionaries.

Write a Python function find_maximum(numbers) that takes a
# # list of integers and returns the maximum value without using the built-in max() function.
# # Use a loop to iterate through the list and compare values

Explanation related to the loop
# The function first checks if the list is empty and returns None if it is.
# It initializes maximum to the first element of the list.
# It then iterates through each number in the list, updating maximum whenever it finds a larger value.
# Finally, it returns the maximum value found.

## Explanations for the functions used

4.  Explain the difference between local and global variables in a Python function.
# Write a program where a global variable and a local variable have the same name and
# show how Python differentiates between them.

In Python ,variables have a scope that determines where they can be accessed from.
#A variable's scope is the region of the program where it is defined and can be used.
#The variable created above the user defined function is considered as the global variable,
#whereas the variable created inside or within the function is considered as local variable.
#The print command inside the function will return the local variable.
#The print command after the function call will return the Global variable.

## Explanations for the functions used

```
5.Create a function calculate_area(length, width=5) that calculates the area of a
rectangle.
# If only the length is provided, the function should assume the width is 5.
# Show how the function behaves when called with and without the width argument.
#
For calculating the area length and width are required.
#In the user defined function calculate_area length and width are to be given while
# defining the function.Here width =5 is given as default argument.
#While calling the function with both length and width,both arguments are given and the
#area is printed.
#If only the value for length is given then the value for the width will be taken by the
#interpreter is the default argument.Thus, the area is calculated in the second case.
```